Distr.
GENERAL

IDB.8/32
14 June 1991

United Nations Industrial Development Organization

ORIGINAL: ENGLISH

Industrial Development Board

Eighth session
Vienna, 1-5 July 1991
Item 19 of the provisional agenda

INDUSTRIAL DEVELOPMENT COOPERATION AND THE DIVERSIFICATION AND MODERNIZATION OF PRODUCTIVE ACTIVITIES IN DEVELOPING COUNTRIES

Report by the Director-General

Summary

Presents recommendations on strengthening effectively industrial development cooperation and fostering the diversification and modernization of productive activities in developing countries, in response to General Assembly resolution 45/196.

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Introduction

1. While reaffirming the role of UNIDO as the coordinating organ in the United Nations system having primary responsibility for promoting and accelerating industrial development and the transfer of industrial technology to developing countries, United Nations General Assembly resolution 45/196 of 21 December 1990, inter alia, recommended (para. 10) that the Administrative Committee on Co-ordination (ACC) examine ways and means of fostering United Nations system activities with regard to industrial development cooperation and the diversification and modernization of productive activities in developing countries and report thereon, through the Secretary-General, to the General Assembly at its forty-sixth session. The resolution also recommended (para. 11) that UNIDO, in close cooperation with the appropriate organs, organizations and bodies of the United Nations system, including the regional commissions, make recommendations to the General Assembly through the Economic and Social Council (ECOSOC) with a view to strengthening effectively industrial development cooperation and the diversification and modernization of productive activities in developing countries.

2. The present report has been prepared in response to that resolution and is intended:

(a) To provide the recommendations requested of UNIDO (para. 11 of the resolution);

(b) To constitute the UNIDO contribution to the report to be prepared by ACC (para. 10 of the resolution);

(c) To provide a contribution to the report to be prepared by the United Nations Secretary-General on ways and means of promoting the enhancement of United Nations activities with regard to the training of scientists, engineers and entrepreneurs from developing countries as well as to provide inputs to the Secretary-General

V.91 25491 0603E

Distr.: 20 June 1991

for the preparation of the United Nations medium-term plan (paras. 9 and 12 of the resolution).

3. The comments and recommendations contained in the present report are based largely on the UNIDO medium-term plan, 1990-1995 (GC.3/17), as approved by the General Conference in resolution GC.3/Res.21, on other resolutions and decisions relating to the subject and adopted by the General Conference at its third session and by the Industrial Development Board at its sixth and seventh sessions as well as on the cross-organizational programme analysis of the activities of the United Nations system on industrial development, presented by the Secretary-General of the United Nations to the Economic and Social Council in June 1990 (E/AC/51/1990/6).

4. In line with the request that the recommendations be prepared in close cooperation with the appropriate organs and organizations of the United Nations system, including the regional commissions (resolution 45/196, para. 11), the contents of the present report were transmitted to the ACC at its first regular session of 1991 not only in connection with paragraph 2 (b) above but also for review in connection with paragraph 2 (a) above. Due to the rather limited time available for the preparation of the document and, thus its late submission, the ACC did not review the draft report at its first regular session in 1991. Therefore, before finalizing the present document, UNIDO invited the concerned sister organizations to submit their comments and suggestions in writing to the UNIDO Secretariat by 31 May 1991.

5. The International Labour Organisation (ILO), the World Health Organization (WHO) and the International Fund for Agricultural Development (IFAD) reacted within the indicated deadline. They praised the UNIDO submission in general, but did not offer detailed comments. ILO indicated its desire to be fully involved in the eventual implementation of recommendations covering aspects of human resource development, entrepreneurship promotion, support to small- and medium-scale industry, upgrading of technological capabilities and supporting integration of women into industrial development activities. WHO made reference to its Action Programme on Essential Drugs and stressed the significance of modernization and technological upgrading as well as diversification and industrial recovery in the context of its activities related to production of essential drugs and vaccines.

6. Within the mandate of UNIDO the subject matter of resolution 45/196 is fully addressed by the present report, while certain elements are the subject of special proposals in order to satisfy specific issues raised in that resolution, namely:

(a) An analysis of the medium/long-term evolution of the industrial sector in view of the new technological dynamics and recent macro-economic events (paras. 1 and 2);*

(b) The issue of access and transfer to developing countries of environmentally sound technologies (para. 3), also to be addressed by the UNIDO International Conference on Ecologically Sustainable Industrial Development to be held at Copenhagen, Denmark, from 14 to 18 October 1991;

(c) The question of technological upgrading (paras. 4 and 5);

(d) The contribution of the UNIDO special trust fund schemes in developing alternatives to traditional assistance programmes (para. 6) and in complementing existing multilateral assistance programmes;

(e) A joint effort to assist developing countries in the formulation of country-based programmes and plans for industrialization (paras. 6 and 8). Such a joint effort would correspond to the recent emphasis on programming within the operational activities of the United Nations system;

(f) Economic and technical cooperation among developing countries (para. 7);

(g) A plan of action to enhance the activities of the United Nations system relating to the training of scientists, engineers and entrepreneurs from developing countries (para. 9).

I. THE INTERNATIONAL ECONOMIC ENVIRONMENT

7. The decade of the 1980s witnessed unmistakable signs that the world economy is being integrated at an accelerated pace. Rising international trade volume and foreign direct investment, rapid diffusion of technological progress and the formation of close links between the financial markets of Frankfurt, Hong Kong, London, New York, Singapore and Tokyo are all aspects of this phenomenon. Regional integration movements have been superimposed on the overall globalization, as may be seen in the progress towards a single European Community market, the Free Trade Pact between Canada and the United States of America, and the Asia-Pacific Economic Co-operation Council. Eastern Europe and the Union of Soviet Socialist Republics have also recently joined the trend of global integration by opening up their economies. This trend towards an integrated global industrial economy is leading to fierce competition where only the fittest enterprises will survive. The intensified global competition will also widen interregional and intercountry gaps in income, industrial capacity and technology in the next decade.

8. The current technological revolution is bypassing large parts of the developing world. The long-term prospects, particularly of sub-Saharan Africa and to a lesser extent Latin America and the Caribbean region, appear bleak. During the 1980s, the two regions registered an annual manufacture value-added (MVA) growth of 0.5 per cent and 1.6 per cent, respectively. Those rates, being below population growth rates, imply negative growth of per capita industrial activity. Under a heavy burden of debt servicing, day-to-day crisis management takes precedence over policies favouring long-term progress in technology and innovation. Yet, the solution of the debt problem for sub-Saharan Africa and Latin America and the Caribbean requires wide-spread industrial diversification and modernization through technical innovation, given the natural growth limits in primary commodity sectors.

* References in parentheses refer to paragraph numbers of resolution 45/196.

9. Gaping regional industrial disparities have prompted a world-wide debate on industrial competitiveness and the role of government policy. The ongoing disputes between Japan, the United States of America and countries of Western Europe illustrate the seriousness of the issue.

10. Virtually all major regions of the world have experienced economic reforms in various degrees during the 1980s. The successes and failures have yielded case material from which to draw valuable lessons for policy makers, particularly in developing countries. The centrally planned economies in Eastern Europe and in the Union of Soviet Socialist Republics have opted for reform to enhance efficiency by introducing market competition. One of the aims is to attract superior technology and capital from abroad to diversify and modernize their industry. Among developing countries, some of the economies of South and East Asia have demonstrated that the technological progress of the West can be repeated elsewhere. The Asian experience, though often considered non-transferable, could provide important lessons for other developing countries.

11. In the face of the formidable challenge posed by the continued uncertainty of the world industrial outlook, the efforts to seek realistic solutions to the complex problems of industrial development should not slacken. The next decade demands innovative approaches to international cooperation so as to bring about a broader and more resilient industrial base in the developing countries that can withstand recurrent turbulences in the international economic environment, achieve greater harmony with their basic resource endowments and create comparative advantages.

Recommendation

12. The General Assembly may wish to request UNIDO to prepare a study of long-term world industrial structure, as developing countries face growing challenges to their industrial and technological development. Such a study might address the interrelated questions of: employment generation; changing terms of trade; environmentally sustainable industrial development; changes in the direction, structure and modalities of international trade and resource flows; new perceptions of the role of government; and modalities and priorities in human resource development.

II. GENERAL APPROACH OF UNIDO TO DIVERSIFICATION AND MODERNIZATION OF INDUSTRY

13. The primary objective of UNIDO is the promotion and acceleration of industrial development in the developing countries. Industrialization is a long-term process of structural and technological transformation, and UNIDO is committed to promote that process by focusing its assistance on key problem areas, especially in the poorest countries, and by stimulating concerted efforts.

14. The most important part of the UNIDO mandate is the provision of technical cooperation activities. Recent measures undertaken by UNIDO have helped to boost technical cooperation deliveries from $133.8 million in 1989 to $159.6 million in 1990, an increase of $25.8 million or 19.3 per cent. Over the same period, the volume of projects scheduled for implementation, the stock of UNIDO projects, rose from $252.5 million at the end of 1989 to $255.6 million at the end of 1990. A major UNIDO target is the effective mobilization of project financing resources mainly through self-financing and third-party trust fund arrangements. The outcome of the Organization's endeavours is reflected in the recent growth in trust fund project delivery and the continued financial support that Member States give to the Industrial Development Fund. Project expenditures under self-financed and third-party trust fund schemes increased from $16.5 million in 1989 to $25.7 million in 1990. Pledges to the Industrial Development Fund totalled $29.8 million in 1990, an increase of $3.9 million, or 15 per cent, over 1988.

15. A significant part of UNIDO technical cooperation activities relates to its industrial investment promotion programme, whose primary objectives are to develop an integrated promotional approach to industrialization including the transfer of cleaner, safer, and cost-effective technologies. Efforts in this direction were rewarded by an increase in the industrial investment projects that were successfully promoted - from 143 projects, valued at $556.4 million in 1989, to 170 projects, valued at $699 million in 1990.

16. In examining the issues raised in General Assembly resolution 45/196, UNIDO priorities, as reflected in its medium-term plan, 1990-1995 (GC.3/17) are presented as follows:

(a) The human factor:

(i) Human resource development

(ii) The integration of women in industrial development

(b) Modernization: the challenge of technology:

(i) The development and transfer of technology

(ii) Environment and energy

(iii) Economic and technical cooperation among developing countries and subregional industrial cooperation

(c) Diversification: industrial recovery:

(i) Mobilization of financial resources

(ii) Industrial rehabilitation

(iii) The development of small- and medium-scale industries

In addition, the following cross-cutting issues are addressed:

(d) The regional dimension

(e) Inter-agency cooperation.

A. The human factor

Human resource development

17. Human resource development should be seen as both a precondition for and a consequence of

industrial development. From the point of view of UNIDO, this calls for attention not only to the practical aspects of the functioning of education and training systems, but also to a whole range of strategic and institutional issues of industrial development. Careful consideration should be given to basic strategic issues, finding the appropriate blend of less advanced and newly emerging advanced technologies in upgrading education and training systems and in creating the institutions that will motivate and enable entrepreneurs to utilize evolving employment opportunities. Particularly important for the developing countries are the growing challenges created by rapid technological change, changes in international markets and price structures and other factors that affect international comparative advantages, such as the evolution of major trading blocs.

18. The primary objective of UNIDO in this priority area is to build up in developing countries coherent and sustainable systems for upgrading local technological, managerial, and entrepreneurial capabilities, and to utilize them for industrial development. This broad objective is addressed through programmes where UNIDO can act as a catalyst and stimulator of action and change. Target groups include: (a) policy makers at the national and regional level; (b) industrial and professional associations; (c) private-sector enterprises; (d) technical and financial institutions; (e) international technical cooperation agencies and institutions; and (f) women.

19. Training services provided by UNIDO in various specialized fields are oriented primarily towards the training of trainers, placing the emphasis on the development of new institutional training programmes at national, subregional and regional levels. Seminars and training workshops focus on critical areas such as repair and maintenance, quality assurance and control, investment project preparation, appraisal and promotion, enterprise and factory management, contract negotiation for the transfer and acquisition of technology, small-industry extension services, as well as energy conservation and substitution, industrial safety and environmental protection. Cooperation in long-term institution-building projects incorporates, wherever desirable, a policy research component so as to ensure maximum feedback to national human resource development policies and the design of training systems. Attention focuses on establishing the institutional infrastructure for industry, comprising education, training, technological research and development, information, communication, investment and technology transfer and extension services. Efforts are also made to ensure that every technical cooperation project has a maximum impact on the host country in terms of human resource development.

20. Especially in relatively advanced and specialized technological fields, emphasis is placed on complementarity, diversification and interlinkage of training programmes and facilities among neighbouring developing countries that offer opportunities for industrial cooperation. Cooperation with other organizations of the United Nations system, especially with the International Labour Organisation (ILO), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Bank, is as important as drawing on the experience of non-governmental organizations, industrial enterprises and other institutions involved in human resource development for industry.

The integration of women in industrial development

21. The last two decades have witnessed a substantial increase in the participation of women in industrial activities. In the 1980s, the proportion of women in the formal industrial labour force has increased in some developing countries to a level higher than in any developed country. Women also contribute significantly to the informal production sector as invisible, i.e. hidden, or unregistered workers. However, while there has been a numerical gain for women in terms of overall employment in industry, they have yet to be integrated into all occupations and sectors and to obtain the conditions and significance of work comparable to those of men. It is therefore important to ensure that, as part of the human resource planning process, women have access to educational opportunities at all levels and, in particular, to industry-related skills training.

22. UNIDO therefore seeks to integrate women into the process of identification, design and implementation and evaluation of technical cooperation programmes and projects. Integration is sought in particular in industrial sector and subsector planning, human resource development, in agro-industries and in small-scale industry promotion, as well as in industrial study and research activities. Guidelines for their consideration in the project design, management and evaluation processes have been developed to this effect. In addition, special training programmes for women in technical, managerial and entrepreneurial areas have been developed and training institutes in developing countries are encouraged and assisted to organize courses for women. These endeavours are supplemented by expert group meetings and seminars designed to discuss specific strategies, refine approaches for the advancement of women in industry and enhance awareness among policy makers of these issues. In pursuing its efforts in this regard, UNIDO cooperates with other organizations and organs of the United Nations system, in particular, the International Fund for Agricultural Development (IFAD), the International Labour Organisation (ILO), the United Nations Development Programme (UNDP), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations Development Fund for Women (UNIFEM). Activities are promoted taking into account the recommendations contained in the United Nations system-wide medium-term plan for women and development (cf. E/1987/52; Economic and Social Council resolution 1987/86) as well as the UNIDO medium-term plan, 1990-1995 (GC.3/17).

Recommendation

23. The General Assembly may wish to recall resolution GC.3/Res.8 of the General Conference of UNIDO on development of human resources and the comprehensive policy framework for UNIDO operations in that area contained in document GC.3/8 submitted to the Conference.

In this connection, UNIDO should strengthen coordinated and comprehensive approaches to human resource development especially where recipients of UNIDO assistance are determined to implement national programmes to upgrade their industrial structure. It is particularly important that human resource development policies and programmes are consistent with efforts at industrial upgrading, particularly in the area of industrial technology. In such programmes, cooperation with other relevant United Nations organizations in their areas of competence is essential. Given the central role of human resource development in industrial development, UNIDO should take the initiative in formulating an action plan on training in the fields of applied research, engineering and entrepreneurship for industrial development, ensuring the inclusion of women in the target groups.

24. The General Assembly, bearing in mind General Conference resolution GC.3/Res.15 on the integration of women in development, may wish to emphasize the necessity of specific efforts to consider women in the process of human resource planning with the aim of increasing their participation at national, regional and international decision-making levels, and thus recognizing and promoting their contribution to industrial development.

B. Modernization: the challenge of technology

The development and transfer of technology

25. The development of indigenous technological capabilities is a decisive factor in industrial survival and poses a challenge to developing countries, compelling them to adopt strategies for research and development, and create and support the necessary infrastructure. Many developing countries still lack the critical elements of a technological system essential to industrial development such as: (a) technology policy and its integration with industrial development policies and plans; (b) access to and acquisition of technology, including the negotiation and monitoring of technology transfer contracts; (c) development, adaptation and diffusion of technology, (d) strengthening of domestic technological infrastructure and its links to industrial operations; and (e) development of technological information systems and related extension services, including capabilities for monitoring new and old technologies.

26. Programmes of industrial upgrading through new investment and technology improvement can lead to dynamic efficiencies and create new comparative advantage. Success or failure of mastering technology is determined operationally by product competitiveness in open markets. Programmes of industrial upgrading should involve mutually reinforcing elements which also provide product selection criteria, the most important being (a) ascending the "technology ladder", (b) increasing inter-industry linkages, (c) augmenting domestic value-added of export products, and (d) creating new opportunities for investment. Support for industrial upgrading programmes usually requires the coordination of national technology policy with investment policy. There are indications that technological performance may be more closely tied to different institutional contexts than to the economic signals which markets produce. Industrialized countries learn from each other's institution building experiences; for example, the attempts from some of these countries to copy and adapt to local conditions such phenomena as the Japanese Kanban (just-in-time) system and the multi-functionality of workers; the multidisciplinary team approach in developing high technology products, incorporating in an integrated manner various disciplines including engineering, marketing, finance, supply and procurements. Developing countries could examine the experience of other developing countries and of industrialized countries in building institutions and devising mechanisms which: increase competitiveness in international markets; encourage risk-taking in mastering new technologies; and alleviate market imperfections arising from prohibitive information costs. Temporary protection for domestic technology development may be necessary, but ultimately it must compete with imported technology. In the long run, the "import or invent" choice is not mutually exclusive, since the greater the capability of domestic invention, the greater the capability of absorbing and mastering imported, up-to-date technology. In a long-term dynamic sense both approaches are mutually reinforcing.

27. The primary objectives of the UNIDO development and transfer of technology programme are: (a) to increase the awareness of the developing countries in the implications of emerging technological changes; (b) to facilitate their access to technology sources; (c) to assist them in strengthening their domestic technological capabilities so as to translate new opportunities into action programmes; (d) to promote broader participation of the developing countries in international technological development; and (e) to improve regional cooperation, especially through the establishment and improvement in the developing countries of centres of excellence and similar scientific and technological development institutions.

28. UNIDO emphasizes the integration of industrial and technological development through: (a) research and studies on technology, focused on three main areas: the impact of new technologies on socio-economic development; the trends and cooperation potentials in specific industrial sectors; and cross-sectoral strategies for technological development; (b) technical cooperation in creating and strengthening basic technical infrastructure for industrial development with particular regard to repair and maintenance, quality assurance and control, product and process engineering, R and D, and related extension services within a clearly structured national policy framework, including measures specifically designed for small- and medium-scale industry development; (c) promotional activities, consisting of ad hoc advisory services, awareness workshops and enterprise-to-enterprise cooperation; (d) advisory services through the UNIDO Technological Information Exchange System (TIES) on technology negotiation and acquisition, supplemented by intensified dialogue between technology suppliers and recipients and periodic studies on international technology markets; and (e) technological information services, primarily through the UNIDO Industrial and Technological Information Bank (INTIB) network.

Environment and Energy

29. Over the past 25 years, the rapid growth of industrial production has had an impact on the global natural resource base through the entire cycle of raw materials exploration and extraction, energy consumption, waste generation and the use and disposal of products by consumers. While some of the impact of industry has been positive, e.g. employment generation and technical progress, enhancing the quality of products or extending use, the negative effects, as a result of environmental pollution and of depletion or degradation of resources, have increasingly come to be recognized.

30. Even though much of the pollution is caused by the heavily industrialized countries, many developing countries are increasingly aware of the hazards of industry and are introducing environmental protection measures and resource conservation policies and programmes. Industry and research institutions have also responded by developing new non-polluting technologies and production processes, an endeavor to which biotechnology and genetic engineering can make a major contribution. Industrial solutions, however, are based mostly on short-term economic considerations and often do not take account of social costs as long as they are not reflected in market prices. Clearly, pronounced public policy involvement is essential in introducing longer-term solutions to environmental problems. Most developing countries, however, lack experience in dealing with environmental problems; their institutional infrastructure for monitoring the industrial environment is often inadequate. Each country has its unique macro- and micro-environmental characteristics which call for flexibility in linking industry-specific policies and economy-wide environmental policy.

31. Energy is a fundamental development issue closely related today to environment. Growth, particularly in the developing countries, calls for major reconsideration of the use of energy. In view of the swift growth in energy consumption in the developing countries (over 3.5 per cent per annum since 1980) energy policies must take account of the environmental impact of fossil fuel consumption which is still the major source of energy. In the short term, efforts must be made to increase the efficiency of energy use and conservation; in the medium and long term a shift should be made from the use of coal and oil to gas and hydroelectricity, solar energy and other renewable resources.

32. The UNIDO environment programme aims at ensuring the environmental sustainability of industrial development and maximizing the beneficial impact of industry on the quality of life by minimizing its adverse environmental effects. UNIDO has initiated a vigorous activity that consists of in-house staff training, promotional work directed towards clean, low-waste, energy-efficient and recycling or re-use technologies, technical assistance in pollution control, as well as related research and information activities. In line with the recommendations of the United Nations Committee on Programme and Coordination, at its thirtieth session, on the cross-organizational programme analysis on industrial development, UNIDO has sought close cooperation with the United Nations Environment Programme (UNEP) and the World Bank in promoting those activities. An environmental database is to be developed at UNIDO Headquarters containing details of environmental standards and the environmental implications of technologies, as well as monitoring devices for environmental management. More importantly, the forthcoming UNIDO International Conference on Ecologically Sustainable Industrial Development (ESID) is to be held at Copenhagen, Denmark (14 to 18 October 1991), to examine efforts made for achieving sustainable industrial development. The Conference will assist Member States in arriving at a better understanding of how the industrial sector - in both developing and developed countries - can expand without jeopardizing the state of the environment for future generations. It will explore the roles of industry, Government and international cooperation in ensuring that cleaner production concepts and technologies are fully available to developing countries on reasonable terms and, in particular, it will discuss industrial sector issues which may be of relevance to the 1992 United Nations Conference on Environment and Development.

33. Technical cooperation and other activities of UNIDO in the energy field will be fully integrated with the United Nations efforts. In line with its upcoming energy programme, UNIDO will continue to participate actively in the United Nations system-wide coordinated efforts to assist developing countries in R and D related to new and renewable sources of energy and associated technologies. In respect of both environment and energy, UNIDO will continue to work in close cooperation with UNEP, the Economic Commission for Europe (ECE), the International Atomic Energy Agency (IAEA), UNDP, ILO, FAO, WHO and UNESCO and other appropriate international institutions.

Economic and technical cooperation among developing countries

34. Economic and technical cooperation among developing countries (ECDC/TCDC) enjoy general political support, yet the translation of these concepts into concrete industrial projects still has not reached the desired level. This is partly due to the difficulty of financing ECDC/TCDC projects and of translating general political proclamations into operational commitments. ECDC/TCDC seems to work best with a "bottom-up" approach based on identified capacities and the needs of partners. Key ingredients for success are reliable and up-to-date information on beneficiaries' real interests, suppliers' proven capabilities, as well as properly functioning mechanisms to bring the two together at the subregional, regional or interregional level. Moreover, substantial differences exist in technological mastery and efficiency between firms within a single country, subregion or region, providing opportunities to learn and to benefit nationally, subregionally, regionally and interregionally, from individual firms' technology and skill levels, in specific branches of industry and in the manufacture of particular industrial products.

35. The basic thrust of ECDC activities is to utilize and strengthen existing institutional bases at the national, subregional and regional levels for development in areas such as: identification of industrial and technological problems amenable to ECDC or TCDC solutions; matching demands for economic and technological cooperation with the capacity of Governments, institutions and enterprises to supply expertise,

equipment and other services and to share experience and facilities; promotion of and support for technological centres of excellence and networks concerned with the development and transfer of technology; the development of local consultancy capacities for industrial rehabilitation and restructuring; exchange of experience among national extension service institutions and industrial associations; and promotion of enterprise-to-enterprise cooperation in order to realize industrial complementarity schemes.

Recommendation

36. The General Assembly may wish to take note of resolution GC.3/Res.7 of the General Conference of UNIDO on development and transfer of technology and may wish to emphasize its importance, including the strengthening of negotiating capabilities for the acquisition of technology, and of the development of industrial skills, particularly technological, engineering and entrepreneurial capabilities. Adequate resources should be allocated for these purposes in national budgets and technical cooperation programmes with multilateral and bilateral funding agencies.

37. The General Assembly may also wish to stress the need for developing countries to formulate national programmes of industrial upgrading by identifying new priority sectors and products in which efficiency-based growth is desirable and feasible. Developing countries could provide comprehensive support for such national programmes by revising and coordinating national technology policy with investment policy. Bilateral and multilateral cooperation and financing agencies should give priority support to national programmes of industrial upgrading.

38. The General Assembly may wish to take note of resolution GC.3/Res.16 of the General Conference of UNIDO related to the environment and industrial development. Environmental degradation is closely related to poverty and underdevelopment and the promotion of economic and social development represents an essential factor for the protection of human health and the environment. Neglect of the environment in industrial development may lead to irreversible damages and will at any rate increase the cost of development in the long term by diverting resources to restore the ecological balance and to mitigate adverse health effects. It is important that all countries strengthen and support the development of sustainable mechanisms and appropriate decision-making procedures to respond to environmental protection needs, including access to and transfer of needed environmental technologies for industrial development. Financial contributions to the UNIDO environment programme should be increased, and UNIDO should strengthen coordination with other United Nations agencies.

39. The General Assembly may wish to recall General Conference resolution GC.3/Res.9 on economic and technical cooperation among developing countries. It is important that UNIDO seeks to promote a better flow of information on programmes for upgrading industrial capability among developing countries, particularly through the TCDC Information Referral System (INRES-South) of UNDP. Greater efforts should be devoted to exchanges of information on technology, skill levels and competitive efficiency among industrial enterprises engaged in the same product or industrial branches at the subregional, regional and interregional levels, using INRES-South and other effective methods. It is essential that increased financial support through voluntary contributions be given to ECDC/TCDC programmes.

40. UNIDO should initiate, in consultation with the regional commissions and other relevant United Nations bodies, measures aimed at either establishing or strengthening existing regional associations of small-scale industrial enterprises and regional databanks and thus provide a forum for the exchange of information on the development of entrepreneurial capabilities.

C. Diversification; industrial recovery

The mobilization of financial resources

41. The debt crises that marked the 1980s have led to certain shifts in the policies adopted by major financing institutions. As a result of increased commercial and political risks faced by lenders and investors to highly indebted developing countries, the flow of external resources to the industrial sector of those countries has been affected severely. The difficulties associated with investment include an unattractive investment climate for local and foreign entrepreneurs, a lack of well-prepared investment projects, and difficulties in finding qualified investors and entrepreneurs. High transaction costs and risks associated with their direct involvement in international cooperation frequently prevent small- and medium-scale enterprises in industrialized countries from seeking business cooperation opportunities in developing countries. On the other hand, domestic entrepreneurs in developing countries have inadequate access to essential information on capital sources and markets, and inadequate design and engineering skills to compete in foreign markets.

42. In order to revitalize industry in developing countries, UNIDO aims to find new ways of increasing the international flow of finance to productive industrial investment by supporting investment policy formulation including investment codes attractive to foreign capital; by working more closely with financial institutions in developing countries; by identifying, appraising and promoting industrial investment opportunities; and by promoting enterprise-to-enterprise cooperation through direct foreign investment and technical cooperation agreements. Three interrelated activities are particularly important: (a) timely assistance in identifying investment opportunities and preparing pre-investment and feasibility studies; (b) the identification of domestic sponsors and potential partners providing finance, technology and/or management for investment projects; and (c) strengthening local investment promotion institutions.

43. The network of UNIDO Investment Promotion Service offices (Cologne, Milan, Paris, Seoul, Tokyo, Vienna, Warsaw, Washington and Zurich) and the Industrial Cooperation Offices (Beijing and Moscow), play a particularly constructive role in increasing the flow of resources to industry in developing countries. They serve as UNIDO's windows to industry in their respective countries, facilitating international industrial cooperation schemes.

Industrial rehabilitation

44. The need for industrial rehabilitation - a dominant feature of industrial structure adjustment - arises from problems at the level of firms, either caused internally or by changes in the economic environment. Internal problems may stem from the erroneous planning of projects, mismanagement, obsolete technologies, and other inadequacies in industrial and technological systems. External problems include the impact of macroeconomic changes resulting from external shocks, policy failures, inadequate infrastructure, austerity measures, foreign exchange crises, and growing adjustment pressures. As a remedy, it is essential to examine new opportunities for profitable investment after reorienting industries in an "enabling" environment created by fiscal, financial and institutional reforms. Also important is the strengthening of basic industrial information systems and the support to technical infrastructures related to such activities as research and development, repair and maintenance, quality assurance, management consultancy, market surveys and investment opportunity studies required as a result of the changed macroeconomic environment.

45. UNIDO industrial rehabilitation activities also aim at strengthening the capabilities of national industrial policy and development finance authorities to assess the requirements of industrial rehabilitation at the enterprise, subsectoral and sectoral levels and to put into effect appropriate policies and financial packages to revitalize troubled industries.

46. UNIDO approaches industrial rehabilitation at three levels, emphasizing: (a) diagnostic activities covering various aspects of plant operations, leading up to comprehensive rehabilitation projects and examination of their feasibility; (b) the development of programmes for institutional support, structural rationalization and the creation of rational and cohesive production structures; and (c) the policy implications of efforts undertaken at the first two levels and the promotion of appropriate measures. It is important to link sector-wide rehabilitation strategies to micro-level analyses of enterprises and their modernization potential.

The development of small- and medium-scale industries

47. In the developing countries, the formal sector of small- and medium-scale industries contributes between 10 and 20 per cent of industrial output and provides 40 to 60 per cent of industrial employment. The great potential of these industries, especially in terms of their contribution to employment and for a broader and more dynamic base for industrialization, is a major promise. At the same time it is a major challenge owing to the difficulties in fostering their development. This challenge is all the more urgent in many debt-ridden developing countries, given the fragility of import-substitution industries dependent on foreign equipment and managerial resources, and imported raw and intermediate materials. Promoting domestic resource-based and local market-oriented industries calls for innovative approaches to creating an appropriate environment along with a supporting business infrastructure for entrepreneurs in small-scale industries.

48. The policy mix in support of small-scale industry should cover such factors as the legal system governing property and contract rights, regulatory and promotional policies, credit availability, fiscal incentives, macroeconomic policies, and technological extension services, taking due account of the need to bring about the effective integration of women in the sector. Improving the volume and quality of financing from the banking sector is a particularly important need for small-scale and rural industries. Appropriate policy reforms should therefore be accompanied by improvements in the institutional structures of financial services. A truly viable sector of small- and medium-scale industries will eventually have to be fully integrated with the modern industrial sector.

49. The primary objectives of the UNIDO small- and medium-scale industry programme are to stimulate small business enterprises in rural areas and to develop skill-intensive small- and medium-scale industries. The UNIDO approach is to: (a) develop support structures to serve existing and new small industries, including rural industries; (b) provide opportunities for the effective integration of women in the industrial development process; (c) devise ways and means of expanding the productive and technological links between small independent firms and larger-scale industries both within and among countries; (d) improve local technological facilities to support small, technology-intensive industrial ventures; and (e) promote joint maintenance schemes, quality assurance, instrumentation and standardization, testing and market research for export-oriented industries.

Recommendation

50. The General Assembly may wish to recall UNIDO General Conference resolution GC.3/Res.5 and document GC.3/3/Rev.1 on the mobilization of financial resources for industrial development including the UNIDO programme for industrial investment promotion. The effective promotion of direct mobilization of financial resources is important as is the improvement of systems to attract resources. UNIDO should strengthen its assistance to the developing countries through promoting joint ventures between domestic and foreign partners. National institutions for investment promotion should be strengthened and reformed through the provision of expertise, and staff training in investment-related activities, including identification, formulation, evaluation, promotion and implementation activities. Such activities should be fully coherent with national programmes for upgrading the industrial structure.

51. Regarding voluntary funding for technical cooperation, General Conference decision GC.3/Dec.25, para. (e), calls for an increase of the Industrial Development Fund (IDF) to the desirable funding level of $50 million annually. The achievement of that modest increase is important, particularly since IDF can provide valuable funding for preparatory assistance to large-scale technical cooperation projects and programmes. Such funding can also result in technical partnerships, transfer of technology and investment in industrial projects.

52. It is essential that multilateral agencies expand their activities - taking into account the debt burden - especially with regard to pre-investment activities, contract negotiations

and financing. Cooperation between UNIDO and financing institutions is important, especially in the promotion of investment and in the rehabilitation and the restructuring of industry. In this regards, UNIDO should develop innovative approaches to financing industry, recognizing the impact of external debt, and should give greater attention to institutional analysis and reform, taking into account the historical and cultural backgrounds of each country. In this connection, developing countries should re-examine their institutional arrangements to provide incentives and mechanisms which facilitate programmes of industrial upgrading.

53. UNIDO should strengthen its activities in support of the small- and medium-scale industry sector, in particular those geared to strengthening national institutions which provide the infrastructure to the sector. A crucial aspect of this issue is the linkages between small- and medium-scale industries and larger enterprises, as well as with export markets.

D. The regional dimension

54. The developing countries' net gain in their share in world manufacturing value-added was up by a meagre 1.9 per cent from 1975 to 1989 for a total of 13.0 per cent. Against this background, the General Conference in its resolutions GC.3/Res.10, GC.3/Res.17 and GC.3/Res.18 approved the Second Industrial Development Decade for Africa, the regional cooperation programme for the industrial recovery of Latin America and the Caribbean, and a special programme for the industrial development of Asia and the Pacific; and the Industrial Development Board in its decision IDB.6/Dec.2, established a special programme for industrial development in the Arab countries.

55. The least developed countries continue to receive high priority as recipients of UNIDO technical cooperation. Many of those countries need to reformulate their industrialization strategies in the light of the radically changed external economic environment. The response of UNIDO includes strategies for the industrial development of the least developed countries; market studies; the preparation and evaluation of investment projects; revitalization of ailing industries where economically feasible; expansion of training opportunities; and the continued allocation of resources to permit participation from the least developed countries in UNIDO-sponsored meetings, technical workshops, training programmes and seminars. At present, UNIDO is preparing a special action plan as a follow-up to the second United Nations Conference on the Least Developed Countries, held in Paris in 1990. Many of the activities will at the same time contribute significantly to the Second Industrial Development Decade for Africa where most of the least developed countries are located.

Recommendation

56. The General Assembly may wish to recall resolution GC.3/Res.11 of the General Conference of UNIDO, on the industrialization of the least developed countries, and to restate the concern over the lack of progress in the industrialization of the least developed countries during the 1980s and the adverse impact of global economic difficulties on those countries. The international community should intensify its technical and financial assistance to the industrialization efforts of the least developed countries with UNIDO according high priority to those countries in its technical cooperation and all other programmes. Member States of UNIDO should be asked to increase their contributions to IDF to support activities in the least developed countries.

E. Inter-agency coordination

57. UNIDO participates in inter-agency coordination at the level of specialized task forces and associated working groups that deal with substantive technical issues in which the industrial sector plays an important role. The issues include rural development, human resource development, economic adjustment and restructuring, environment, energy, science and technology, and the integration of women. This thematic approach is intended to activate coordinated inter-agency efforts, to improve insight into the major problems to be tackled through a multidisciplinary approach by actively sharing experience among agencies. The focus is on strengthening coordination with those governmental and intergovernmental organizations whose work is related to that of UNIDO, especially with the regional commissions and the other United Nations organizations and specialized agencies.

58. Paragraphs 6 and 8 of General Assembly resolution 45/196 highlight the role of UNIDO in assisting developing countries in the formulation of programmes and plans for industrialization and on the mix of agricultural, industrial and service sectors among small, medium, and large industries, based on the specific conditions arising in each developing country. UNIDO responds to those major concerns, first, by reinforcing the country focus of all UNIDO technical cooperation programmes through the preparation of reviews on the industrial sector, coupled with country programming missions which prepare composite briefs of industrial development in individual countries. The second activity is a system of integrated sectoral programming, through which an analysis of structural relationships in a sector facilitates rational decisions on bottlenecks and assistance needs including upstream and downstream activities. These systematic approaches to analysis and technical cooperation programming require a high degree of coordination with relevant multilateral and bilateral agencies.

59. As the main sources of financial assistance, the World Bank and the regional development banks complement the research and technical cooperation activities of the United Nations system. It would appear to be in the interest of the developing countries if, on the other hand, the relevant agencies of the United Nations system were to be more involved in the preparation of the operational policies, plans and projects of the development finance institutions. Cooperative arrangements allowing the World Bank to draw more easily upon the expertise of UNIDO and other United Nations organizations engaged in activities related to industrial development have been recommended by the United Nations Committee on Programme and Co-ordination at its thirtieth session when considering the cross-organizational programme analysis of the activities of the United Nations system on industry.

60. Through higher emphasis on the programme approach, the methods used by UNDP regarding the preparation and management of its technical cooperation projects including the role of the United Nations specialized agencies, could change significantly. This might imply a more specialized role for UNIDO, with UNIDO becoming more involved in coordination mechanisms, such as round tables, in pre-project and sector analyses, in ECDC/TCDC activities and in UNDP-financed consultancy and advisory services. In particular, Member States are expecting the United Nations system to take a more active part in the debate on economic and industrial restructuring including such vital matters as long-range sectoral policies and approaches for the assessment of certain technologies.

61. An additional response to the change of philosophy and operational focus of UNDP, and in fact a response which has achieved a growing success more recently, is for a more vigourous search by UNIDO for additional sources of financing to carry out technical cooperation programmes. The positive trend of UNIDO in attracting self-financed project funding as well as third-party financed funding through special trust fund arrangements is expected to continue.

Recommendation

62. Considering that UNIDO is the primary United Nations organization for the promotion of industrial development in developing countries, and under its constitutional mandate is to play a central role in coordinating the activities of the United Nations system in the field of industrial development, there should be effective coordination between UNIDO and the World Bank. As called for in General Conference resolution GC.3/Res.6 on external debt and industrial development, cooperation should be promoted between UNIDO and development finance institutions to develop innovative approaches geared to the rehabilitation and restructuring of industries.

63. UNIDO should continue to examine its internal and operational modalities in the light of its evolving and more specialized role in meeting the challenges of industrial development. Moreover, it is essential that UNIDO builds upon its past successes in attracting self-financed and third party financed funding through special trust fund arrangements. In this connection, a strengthening and expansion of special trust fund arrangements together with greater financial support from Member States, would make a major contribution to the objectives of diversification and modernization of productive activities in developing countries, as stated in resolution 45/196 of the United Nations General Assembly.

III. ACTION REQUIRED OF THE BOARD

64. The Industrial Development Board is invited to consider the present report for submission, through the United Nations Economic and Social Council, to the United Nations General Assembly at its forty-sixth session.